

Ethiopia Energy Sector Overview

Ethiopia, under its Growth and Transformation Plan (GTP), envisions becoming a regional renewable energy hub in East Africa. Ethiopia has roughly 2,300 megawatts (MW) of installed generation capacity to serve its population of around 90 million people and has little prior experience with private sector-led energy projects. Energy constraints limit growth in key areas of Ethiopia's economy, including the agricultural and industrial sectors.

At the same time, Ethiopia is endowed with abundant renewable energy resources, including 45,000 MWs in additional hydropower potential, more than 10,000 MWs from untapped geothermal resources (see landmark Corbetti transaction below), and significant wind and solar generation opportunities throughout the Rift Valley. By 2037, Ethiopia aspires to have a total installed generation capacity of 37,000 MWs and become a major power exporter. Private sector investment will be critical to supporting this development vision.

The Government of Ethiopia (GoE) is committed to increasing private sector energy participation, expanding transmission and distribution networks to deliver additional power to customers, maintaining a

Current Generation Input Mix

6% Thermal
8% Renewables

86%
Hydroelectric

23%
Connectivity
to electricity generation capacity

Source: Ethiopian Ministry of Water, Irrigation and Energy (2015)

Rural access to electricity

creditworthy off-taker, reforming tariffs to allow for full-cost recovery, and reducing inefficiency in the sector.

Power Africa Support

Power Africa is supporting Ethiopia's energy development strategy through technical assistance to the GoE in negotiating its initial landmark Power Purchase Agreement (PPA) and facilitating financing of private-sector led geothermal, solar and wind projects. The 1,000 MW Corbetti geothermal Power Purchase Agreement (PPA) is in the last stage of negotiations for its first 500 megawatts. Power Africa is also supporting dVentus for installation of 2,000 meters in Addis Ababa and manufacturing of two million smart meters in Ethiopia to improve electricity service and reliability for millions of Ethiopian customers. Use of smart meter technology in Ethiopia has the potential to reduce power losses significantly.

The Eastern Africa Power Pool (EAPP) is based in Ethiopia and seeks to facilitate the cross border trading of renewable energy power supplies to the region at the lowest possible cost. The EAPP is working towards efficiently managing the integrated system. Power Africa will assist the EAPP to develop common grid codes and structure transmission interconnection projects that facilitate the integrated development and operations of national power systems in East Africa.

Residential

Highlighted Transactions						
Name	Megawatts (MW)	Type of Transaction	Value (USD Million)	Timeline	Power Africa Support	GOE Actions
Corbetti	1,000 MW 500 MW (Phase 1)	Power Purchase Agreement (PPA) with Reykjavik Geothermal and partners	\$4,000	 Heads of Terms of PPA signed Q3 2013 PPA to be signed Q3 2015 Drill, test Q4 2015 500 MW operational Q2 2023, another 500 MW in 2025 	Delivered workshops on structuring of PPAs and Implementation Agreements Funding for and facilitation of legal support to the GoE throughout the negotiations Provide targeted knowledge transfer to the GoE on creating a framework for private sector investment in geothermal energy Procure expert advisors for GoE in areas of Financial Modeling, Geothermal Reservoir Appraisal and Geothermal Regulatory Support	Authorized terms of first—ever Ethiopia PPA Duty free discussions VAT Exemption
dVentus	2 million smart meters manufactured	Contract with the Ethiopian Electric Utility (EEU) for Smart Meters manufactured in Ethiopia	\$21	 Produced and tested prototypes Q4 2014 Limited production for pilot project and installation of meters Q3 2015 	Guarantee for \$1 million working capital loan Facilitated transaction advice to retain long-term financing Facilitated OPIC Grant \$500K Assisted in retaining AfDB SEFA grant for \$840K	 5-year income tax incentive VAT Exemption Duty free imports from the U.S.

Leveraging Partnerships to Increase Access to Power in Sub-Saharan Africa

Power Africa, an initiative led by the U.S. Government, aims to increase the number of people in sub-Saharan Africa who have access to power. Launched by President Obama in 2013, Power Africa works with African governments and private sector partners to remove barriers that impede sustainable energy development in sub-Saharan Africa and unlock the substantial wind, solar, hydropower, natural gas, biomass, and geothermal resources on the continent.

Power Africa's goals are to increase electricity access by adding more than 30,000 megawatts of cleaner, more efficient electricity generation capacity and 60 million new home and business connections across sub-Saharan Africa. Power Africa also includes the Beyond the Grid sub-initiative, which works to expand rural electrification and access to small scale and off-grid technology.

A New Operating Model: Mobilizing Partnerships & Investments in Energy

A unique private sector led model, Power Africa draws on the combined expertise and abilities of 12 U.S. Government agencies, the World Bank Group, the African Development Bank, the Government of Sweden, African governments, and private sector partners. Power Africa's "Toolbox" approach offers a range of resources and tools to advance key projects on the electricity grid, or beyond it. By leveraging U.S. expertise in energy technology and regulatory reform, combined with U.S. Government and private sector financial resources, Power Africa helps drive quick-impact interventions and policy reforms to push for sustainable energy development.

To date, Power Africa has leveraged more than \$20 billion in commitments from the private sector for new on- and off-grid projects in sub-Saharan Africa. The U.S. Government is committed to providing more than \$7 billion in financial support, loan guarantees, and technical support. As a result, every dollar the U.S. Government has committed to Power Africa leverages almost three dollars in private sector investment commitments. Additionally, the African Development Bank, the World Bank Group and the Swedish Government have collectively committed an additional \$9 billion in support of Power Africa.

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